

US EPA ARCHIVE DOCUMENT

June 3, 2010

ADDENDUM 1.0
TO THE QUALITY ASSURANCE SAMPLING PLAN
WATER AND SEDIMENT SAMPLING AND MONITORING
FOR THE
DEEPWATER HORIZON INCIDENT
REGION4 LEADING EDGE ASSESSMENT
For June 5 – 11, 2010

This is an addendum to the Quality Assurance Sampling Plan (QASP) that was developed, in part, for the purpose of assessing water and sediment quality conditions of the Gulf coast. The addendum expands the Region 4 SEDS sampling efforts to include an adaptive sampling approach along a potential leading edge of oil predicted by NOAA to make landfall at Dauphin Island within the next 48 hours. Tentative sampling stations have been set at 6 locations as shown in Table 1 and include sensitive areas identified by the Region 4 Water Protection Division. These locations may be adjusted in the field or in consultation with Unified Command based on the presence/observation of an oil sheen or oil, sea state, access, or safety considerations. Specifically, if no oil is observed at the specified station, a baseline water quality sample will be collected. In addition, a sediment sample will be collected in a random fashion at 1 out of 3 of the stations where depths do not exceed approximately 40'. If oil is observed at a station, both water and sediment samples will be collected again where depths do not exceed approximately 40'. Tables 2 and 3 provide the analyses/containers for the water and sediment samples, respectively (for the specific analytical methods, please refer to EPA Region 4 DWH – Gulf Coast Bays Post Impact Water Quality Monitoring).

Where the sample is so concentrated as to constitute a “waste” sample, a revised sampling approach will be undertaken to collect the sample as a waste. Tables 4 and 5 show the analyses/containers for waste samples.

For baseline stations (ie, no observed oil) in situ water quality profiles at 1' – 3' intervals for dissolved oxygen, temperature, salinity (conductivity), pH, and turbidity will be made prior to water sampling to evaluate salinity/temperature stratification. A surface grab water sample will be collected if no stratification is observed. If stratification is observed, a composite sample will be collected comprised of equal parts from each strata.

As shown in the tables, sample volumes will be collected for potential dispersant compound and alkyl Polycyclic Aromatic Hydrocarbons to be determined by Water Protection Division and Incident Command. All analyses will be performed by contract lab arranged by Region 4 Incident Command.

Table 1: Proposed Sample Locations

Station ID	Description of Location	Latitude	Longitude
GC03	Petit Island	30.14572701	-88.44760842
GC04	Dauphin Island	30.18555494	-88.25159082
GC05	Dauphin 2	30.17702784	-87.98336598
GC06	Pine Beach	30.17878189	-87.80314966
GC07	Gulf Shores	30.202707	-87.636566
GC08	Perdido Beach	30.23846883	-87.46731187

Table 2: Surface Water Sample Requirements

Analytical Group	Volume/Container	Preservative	Holding Time
TOC	1 liter polyethylene	H ₂ SO ₄ to pH <2, Ice	28 days
COD	1 liter amber glass	H ₂ SO ₄ to pH <2, Ice	28 days
BOD ₅	1 liter amber glass	Ice	48 hours
Dispersant Compounds 1/	1 liter amber Glass (2 per station)	Ice	7 Days
Total Metals + Hg (+ diss. Metals @ 10% of stations)	1 liter polyethylene	HNO ₃ to pH < 2, Ice	6 Months (Hg: 28 days)
Volatiles	40 ml glass vials 3/station	HCl to pH < 2, Ice	14 Days
Semi-Volatiles (including PAH)	1 liter amber Glass (2 per station)	Ice	7 Days
Alkyl PAHs 1/	1 liter amber Glass (2 per station)	Ice	7 Days
Petroleum Hydrocarbon (DRO & ORO)	1 liter Amber	Ice	7 Days
Petroleum Hydrocarbon (GRO)	Glass/40 ml vials	Ice	7 Days
Toxicity Testing	3 – 1 liter glass	-	-

Table 3: Sediment Sample Requirements

Analytical Group	Volume/Container	Preservative	Holding Time
TOC	8 oz. glass	Ice	TBD
Dispersant Compounds	8 oz. Glass	Ice	TBD
Ammonia Nitrogen	8 oz. Glass	Ice	TBD
Sulfides	8 oz. Glass	Ice	TBD
Total Metals + Hg	8 oz. Glass	Ice	6 Months
Volatiles	Encore (3) + 2 oz. glass for % moisture	Ice	48 Hours
Semi-Volatiles	8 oz. Glass	Ice	7 Days
Alkyl PAHs	8 oz. Glass	Ice	TBD
Petroleum Hydrocarbon (DRO & ORO)	8 oz Glass	Ice	7 Days
Petroleum Hydrocarbon (GRO)	2 oz Glass with septum	Ice	7 Days

Table 4: Surface Water (*sampled as waste*) Sample Requirements

Analytical Group	Volume/ Container	Preservative	Containers/ Sample	Holding Time	Laboratory
TOC	8 oz. Glass	n/a	1	n/a	Contract
Metals + Hg	8 oz. Glass	n/a	1	6 months, Hg-not specified	Contract
Volatiles	8 oz. Glass	n/a	1	28 Days	SESD
Semi-Volatiles (including PAHs)	8 oz. Glass	n/a	1	54 Days	SESD
Alkyl-PAHs	TBD	TBD	TBD	TBD	TBD
TPH (GRO)	2 oz. Glass w/septum	Ice	1	7 Days	Contract
TPH (DRO) & (ORO)	8 oz. Glass	n/a	1	7 Days	Contract
TCLP Metals	8 oz. Glass	n/a	1	360 Days	TBD
TCLP VOC	8 oz. Glass	n/a	1	28 Days	TBD
TCLP SVOC	8 oz. Glass	n/a	1	61 Days	TBD
Dispersant Compounds To be determined by UC in consultation with WPD.	8oz glass	4° C	1	TBD	TBD

Table 5: Sediment (*sampled as waste*) Sample Requirements

Analytical Group	Volume/ Container	Preservative	Containers/ Sample	Holding Time	Laboratory
TOC	8 oz. Glass	n/a	1	n/a	Contract
Ammonia Nitrogen	TBD	TBD	TBD	TBD	Contract
Sulfides	TBD	TBD	TBD	TBD	Contract
Particle Size	8 oz. Glass	n/a	1	Not specified	Contract
Metals + Hg	8 oz. Glass	n/a	1	6 Months, Hg- not specified	Contract
Volatiles	8 oz. Glass	n/a	1	28 Days	SESD
Semi-Volatiles (including PAHs)	8 oz. Glass	n/a	1	54 Days	SESD
Alkyl-PAHs	TBD	TBD	TBD	TBD	TBD
TPH (GRO)	2 oz Glass w/septum	Ice	1	7 Days	Contract
TPH (DRO) & (ORO)	8 oz Glass	n/a	1	7 Days	Contract
Toxicity Test	TBD	TBD	TBD	TBD	TBD
TCLP Metals	8 oz. Glass	n/a	1	360 Days	TBD
TCLP VOC	8 oz. Glass	n/a	1	28 Days	TBD
TCLP SVOC	8 oz. Glass	n/a	1	61 Days	TBD
Dispersant Compounds To be determined by UC in conjunction with WPD.	8oz glass	4° C	1	TBD	TBD